

CLAIMS

1. System for controlling and optimizing the emissions of a catalytic combustor in a gas turbine (10), comprising at least one calculation unit (60) for implementing a mathematical model of the operation of the said gas turbine (10), on the basis of a set of predetermined parameters, by means of which the aforesaid emissions can be optimized during variations of the operating conditions of the turbine over a range of external environmental conditions from approximately -29°C to +49°C.
2. Control and optimization system according to Claim 1, in which the parameters on which the said calculation unit (60) operates comprise an adjustment of the flow rate of a bleed system (IBH) as a function of the ambient temperature (63) and of the rotation of the adjustable vanes (IGV) (14).
3. Control and optimization system according to Claim 2, in which the input parameters of the said calculation unit (60) additionally include the compressor inlet pressure and the absolute

humidity at the compressor inlet, in order to provide greater accuracy.

4. Control and optimization system according to Claim 2, in which the values of the parameters on which the said calculation unit (60) operates are in the range from 0 to -50 degrees for the rotation of the adjustable vanes (IGV) (14) and in the range from 0 to 5% of the flow rate (W2) for the bleed system (IBH), where (W2) is the flow rate of air drawn in by the compressor.